

Method and System for Downhole Clock Synchronization

Abstract

A method and system for use in synchronizing at least two clocks in a downhole network are disclosed. The method comprises determining a total signal latency between a controlling processing element and at least one downhole processing element in a downhole network and sending a synchronizing time over the downhole network to the at least one downhole processing element adjusted for the signal latency. Electronic time stamps may be used to measure latency between processing elements. A system for electrically synchronizing at least two clocks connected to a downhole network comprises a controlling processing element connected to a synchronizing clock in communication over a downhole network with at least one downhole processing element comprising at least one downhole clock. Preferably, the downhole network is integrated into a downhole tool string.